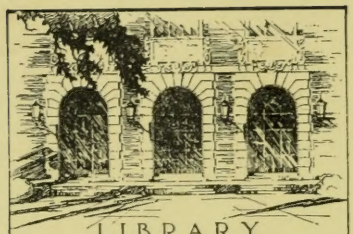

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PROTHONOTARY WARBLER.
(Protonotaria citrea).
About Life-size.

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NATURE NEIGHBORS

Embracing

BIRDS, PLANTS, ANIMALS, MINERALS

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VOL. V—BIRDS

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Birds

ACKNOWLEDGMENTS

The publishers desire to extend their acknowledgment and thanks to the firms who have kindly permitted the use of material in this work: To the publisher, A. W. Mumford, for the articles from "Birds and Nature"; all unsigned articles from this source are marked with an asterisk; to the publisher, John C. Mountjoy, for the articles from the writings of Gerard Alan Abbott and Harold B. Shinn. All articles in the Bird Volumes, not otherwise accounted for, are written by Gerard Alan Abbott.

CHAPTER XVII

INSECTIVOROUS BIRDS

Tanagers are American birds found principally in the tropics. Of the three hundred and fifty species, only five reach the United States. They spend most of their time in wooded lowlands, where they feed upon insects and fruits. The males are remarkable for the brilliancy of their plumage. Few are beautiful songsters; among them, however, is our scarlet tanager.

Swallows are decidedly insectivorous. They feed while upon the wing, and travel great distances, apparently unfatigued, as their flight is the most remarkable of that of any family. The feet are weak, being little used. They nest in pairs and in colonies, and migrate in large flocks by day.

Waxwings are highly gregarious except while breeding. These handsome but songless birds feed upon insects, berries, and fruit. They receive their name from the waxlike tips on secondaries and sometimes on tail.

Shrikes, though representing about two hundred species, are mostly Old World forms, only two varieties being found in America. They prey upon insects, birds, and small mammals, which they impale upon thorns or fence barbs until such time as they choose to satisfy their appetites.

Vireos are peculiar to America. Of the fifty species, fifteen reach the United States. These insectivorous birds are arboreal and slow of movement, gleaning food from leaf

and bark surface mainly. Their plumage has a greenish or grayish cast, harmonizing well with the foliage in which they feed. They are good songsters, and construct beautiful nests.

THE LOUISIANA TANAGER*

The tanagers make their home in the trees, and, being of a retiring disposition, are more numerous within the bounds of the forest. During the breeding season they retire still further into the interior. No wonder that they are more numerous in tropical regions, where the luxuriant foliage of the forests furnishes them with a safe retreat, and where there is an abundance of food suited to their taste. This tendency to avoid the society of man has made the study of their habits much more difficult, and but little has been recorded except that which pertains to the more Northern forms.

The food is chiefly insects, especially in the larval form, and berries. To some extent they also feed upon the buds of flowers. Mr. Chapman tells us that "the tropical species are of a roving disposition, and wander through the forests in search of certain trees bearing ripe fruit, near which they may always be found in numbers." Their nests are shallow, and the eggs, usually three to five in number, are greenish-blue in color, speckled with brown and purple.

The Louisiana Tanager is a Western species, ranging from British Columbia on the north to Guatemala on the south, and from the Missouri River to the Pacific Coast. Our illustration well represents the male. The female, like its sister tanagers, is plainly colored, but still beautiful. It

LOUISIANA TANAGER.
(Piranga ludoviciana.)
Life-size.

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SCARLET TANAGER.
Life-size.

is olive green, with the underside yellowish. The feathers of the wings and tail are brown, edged with olive. It resembles the female scarlet tanager. The young are at first like the female. Then appears the black of the back, mixed with some olive and a slight tinge of red on the head.

It would seem that its name is a misnomer, as it is not found in the State of Louisiana.

SCARLET TANAGER

Most tanagers are tropical, inhabiting the densely foliaged trees about the equator. The Scarlet Tanager summers in the United States and southern Canada, wintering in Central and South America. The male bird, with fire-red body and jet-black wings and tail, is our most brightly plumaged bird, while the female has a sober plumage of dull olive green. The scarlet tanager is a comparatively common bird from Iowa and Minnesota eastward to New York and the Canadian provinces. Decidedly a warm-weather bird, it does not arrive in the Great Lakes region until about May 1st. These birds are highly beneficial, as they destroy countless numbers of worms, moths, caterpillars, and beetles, while partaking of some small fruits and berries.

The song of the male is clear and pleasing, uttered rather distinctly as a rhythmical carol suggesting that of the robins. Timbered hillsides, orchards, and shade trees are favorite nesting sites. The nest, composed of coarse stems and grass, lined with finer material of the same, is attached to a cluster of small twigs on a limb of a deciduous tree,

usually within twenty feet of the ground. The three or four eggs are bluish-green, spotted distinctly with brown.

THE SUMMER TANAGER*

This specimen is also called the Summer Redbird or Rose Tanager, and is found pretty generally distributed over the United States during the summer months, wintering in Cuba, Central America, and northern South America. As will be seen, the adult male is a plain vermilion red. The plumage of the female is less attractive. In habits this species resembles the scarlet tanager, perhaps the most brilliant of the group, but is not so retiring, frequenting open groves and often visiting towns and cities.

The nesting season of this charming bird extends to the latter part of July, but varies with the latitude and season. Bark strips and leaves interwoven with various vegetable substances compose the nest, which is usually built on a horizontal or drooping branch, near its extremity, and situated at the edge of a grove near the roadside. The eggs are beautiful, being a bright, light emerald green, spotted, dotted, and blotched with various shades of lilac, brownish-purple, and dark brown.

Chapman says the Summer Tanager may be easily identified, not alone by its color, but by its unique call-note—a clearly enunciated "chicky-tucky-tuck." Its song bears a general resemblance to that of the scarlet, but to some ears is much sweeter, better sustained, and more musical. It equals in strength, according to one authority, that of the robin, but is uttered more hurriedly, and is more "wiry."

SUMMER TANAGER.
½ Life-size.

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PURPLE MARTIN.

Life size.

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The summer tanager is to a greater or less extent known to farmers as the red bee-bird. Its food consists largely of hornets, wasps, and bees.

PURPLE MARTIN

The Purple Martin, with his near relative and subspecies, called the Western martin, occupies about the entire portion of temperate North America, breeding as far north as Newfoundland and Saskatchewan.

The plumage of the male is deep purple; as the iridescent feathers glisten in the sun with a beautiful metallic effect suggestive of the head and throat of the bronzed grackle.

Martins are strong fliers, and successfully ward off the attacks of the English sparrows and the kingbird. Sociable birds, frequently nesting in colonies, they readily adapt themselves to "apartment" life by accepting as nesting sites bird cotes which are erected for their accommodation. Such houses should be furnished more often. Children may be encouraged to make and put up these houses. The birds also nest in the structural work of bridges and in the crevices and under the roofs of buildings. They even place the nests on the crossboards above the hanging arc lights which are lowered daily by the electricians. Martins are decreasing in numbers in the North, and efforts should be made to keep this valuable bird with us by furnishing them nesting sites.

The food is entirely insectivorous, and these highly useful birds are most active shortly before sunrise and near

sunset. One observer noted that the parent birds visited the young more than two hundred times a day, carrying insect food to them. Martins twitter and chatter in an agreeable way, and the song of the male as he seems to wax his bills together is not grating in quality, as we might suppose, but exceedingly pleasing. I have often wondered why so little is said by naturalists about the song of the purple martin.

The nests are composed chiefly of grass and feathers, and contain four or five pure white eggs, laid in June. The birds are with us from the latter part of April until August.

BARN SWALLOW

The Barn Swallow is probably the most generally distributed of our swallows, as several pairs may usually be found about the average rural home, nesting in barns and outbuildings. They formerly used rock caves and cliffs. Though sociable in habits, they do not colonize like the cliff swallow. These birds range north to Greenland and Hudson Bay, breeding throughout most of the range, and wintering in Central and South America.

The bird is of great economic value, as the food is entirely insectivorous, being captured while the birds are on the wing. Too many ignorant farmers knock down the nests and drive away these true friends. The deep forked tail serves as the best means of distinguishing this swallow from martins, swifts, and other rapid fliers. The song of the male is a mild little twitter, uttered from the rafters or while he is swiftly pursuing insects over the meadows.

BARN SWALLOW.

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TREE SWALLOW.
(Tachycineta bicolor Vieill.)
Life-size

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Swallows are often called the first masons. The nests are placed about buildings, preferably inside on a rafter or beam. Mud of a clay-like composition mixed with blades of grass and hay form the exterior of the nest, in which, when available, feathers are used as a lining. The birds frequently allow one section of the nest several days to set before adding fresh material.

Four to six pearly-white eggs, sprinkled with dots of brown or lilac, are laid late in May or early in June. The eggs hatch in ten days, and the young leave the nest when they are about sixteen days old.

TREE SWALLOW

Tree Swallows occur throughout eastern North America, principally in the Middle and Northern States, ranging north to Labrador and Alaska, breeding locally throughout the range, and wintering from South Carolina southward.

This bird is frequently called the white-bellied swallow, as the under parts are pure white, a field mark which readily distinguishes it from our other swallows. The upper parts are steel blue in color, the feathers having a glossy metallic luster.

The feet of the tree swallows show little development. The birds are seen perching on the naked branches of trees more frequently than are our other swallows. The note is a little twitter, indicative of little demonstration, and the only vivacious movements are those made in flight, as the birds possess perfect control when in the air, and are most at home on the wing.

The tree swallows do not nest in colonies, like the cliff or bank swallows, but flock early in August, when immense numbers congregate on the marshes and, in company with the bank swallows, move leisurely southward as one great army of insect catchers.

The nests are commonly placed in hollow trees and stumps; usually some old, abandoned excavation of a woodpecker is used, though some accept houses made for them by man. Nesting sites near the water are preferred. Often a decayed stump standing in the midst of a vast marsh is selected, and the cavity is warmly lined with grass and feathers. Four to seven white eggs are laid.

THE VIOLET-GREEN SWALLOW*

The Violet-green Swallow is one of the most beautiful of the Hirundinidæ, or family of swallows. There are about eighty species of the family, and they are world-wide in their distribution. These tireless birds seem to pass almost the entire day on the wing in pursuit of insects, upon which they feed almost exclusively. They can outfly the birds of prey, and the fact that they obtain their food while flying enables them to pursue their migrations by day and to rest at night.

The violet-green swallow frequents the Pacific Coast from British Columbia on the north, southward in the winter to Guatemala and Costa Rica. Its range extends eastward to the eastern base of the Rocky Mountains.

Its nest, which is made of dry grass and copiously lined with a mass of feathers, is variously placed. Sometimes the

VIOLET-GREEN SWALLOW.
(Tachycineta thalassina.)
1/5 Life-size.

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BOHEMIAN WAXWING.
(Ampelis garrulus).
About Life-size.

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knot-holes of oaks and other deciduous trees are selected. They have also been known to use the deserted homes of the cliff swallow. Mr. Allen states that they "nest in abandoned woodpeckers' holes, but at the Garden of the Gods and on the divide between Denver and Colorado City, we found them building in holes in the rocks." This swallow is quite common in western Colorado, where they have been observed on the mountain sides at an altitude of eight to over ten thousand feet. In "The Birds of Colorado," Mr. W. W. Cooke says: "A few breed on the plains, but more commonly from six to ten thousand five hundred feet" above the level of the sea. He also adds that they begin laying late in June or early in July, and desert the higher regions in August and the lower early in September.

The notes of this exquisite bird are described by an observer who says that they "consist of a rather faint warbling twitter, uttered as they sit on some low twig, their favorite perch; when flying about, they seem to be rather silent."

The violet-green swallows, like their sister species, usually nest and migrate in colonies.

BOHEMIAN WAXWING

Mr. Dawson writes: "Perhaps we shall never know just why some of these gentle hyperboreans spend their winters now in New England, now in Wisconsin, now in Washington, or throughout the northern tier of States at once. Their southward movement is doubtless induced by hunger, and the particular direction may be determined in part at

least by the prevailing winds. They are likely to appear in the limits of their range any winter. Usually they appear in flocks of several hundred individuals.

"The Northern waxwing is a bird of unrivaled beauty, even surpassing that of the cedar waxwing, which it closely resembles in appearance and habits. When with us it feeds by preference upon the berries of the mountain ash and the red cedar, and more rarely upon persimmons. Its life history is as yet imperfectly known, although it has been found breeding near the Yukon and Anderson Rivers."

CEDAR WAXWING

The Cedar Waxwing is so called because of red tips, like drops of sealing wax, on secondaries and sometimes on tail.

The entire continent of North America is inhabited by either the cedar or Bohemian waxwings, but the eastern and central portions from Labrador south to Central America are the principal roving grounds of the "cedar bird." Here they may be met with throughout the year, provided their food supply of berries, seeds, and buds is sufficient to sustain the flock until spring when the hordes of insects appear.

The cedar and Bohemian waxwings are the only representatives of this interesting sub-family, Ampelinæ. The former species is distinctly an American bird, but the range of the Bohemian waxwing includes the northern portions of America, Europe, and Asia.

The various hues in a cedar waxwing's plumage, like

CEDAR WAXWING.
$\frac{5}{9}$ Life-size.

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NEST OF THE CEDAR WAXWING.

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the velvety effect in shades and colors of the harlequin duck and Wilson's phalarope, are soft delicate tones. To appreciate this exquisite combination it is essential that the birds themselves be seen.

A sociable bird with an eccentric disposition, the cedar bird, or cherry bird, wanders about the country in flocks of from five to fifty. The raids made by a company of these birds when they descend upon orchard and shade trees which are infested by the canker-worm or elm leaf beetle has proven a blessing to many a horticulturist whose trees they often save. When the early Richmond cherries ripen, the "cherry birds" gather about the trees in numbers. Overlooking both the past and future, the farmer often shoots these valuable birds. When the cherry season is over, the birds gradually pair off and withdraw from the flock, preparatory to nesting in some coniferous shade tree, bush, or orchard tree.

In southern Michigan I observed the birds breeding not earlier than July 20, and many nests are not occupied before August 5. Nest-building is commenced earlier in the Southern States, and young cedar waxwings may be seen in June.

On August 4, 1896, I found a nest of grass, stems, and wool, situated fifteen feet up in the crotch of an apple tree. The crest of a cherry bird was visible above the rim of the nest. Ascending to the nest, I found five bluish slate-colored eggs speckled with black and with under shell markings of pale blue, which gave a cloudy or smoky appearance to the eggs. Another nest, holding four incubated eggs, was discovered on August 16, near the former nest. The peculiar colors of the eggs render them inconspicuous.

THE GREAT NORTHERN SHRIKE*

The Great Northern Shrike, more commonly, perhaps, called Butcher Bird, comes from northern British-American territory to the latitude of Chicago in the fall, and stays through the winter, when it leaves for the vicinity of Fort Anderson, in the crown territories, to build its nest. This is placed in a low tree or bush, and is composed of twigs and grasses. The eggs number four or five. During the winter the shrike's food consists almost entirely of small birds, with an occasional mouse to add variety. In the summer its diet is made up chiefly of the larger insects, though at times a small snake is caught and eaten with apparent relish.

The great Northern shrike has the habit of impaling the bodies of its victims upon thorns or of hanging them by the neck in the crotch of two small limbs. Its perch is the very tiptop of a tree, from which it can survey the surrounding country and mark out its victims with its keen eye.

It is larger and darker than its brother, the loggerhead. It is also a much better singer, its notes being varied and almost entirely musical, though occasionally it perpetrates a sort of harsh half croak that ruins the performance.

The close daily observance of the bird involves some little sacrifice for the person whose nature is tempered with mercy. The shrike is essentially cruel. It is a butcher pure and simple, and a butcher that knows no merciful methods in plying its trade. More than this, the shrike is the most arrant hypocrite in the whole bird calendar. Its notes are

GREAT NORTHERN SHRIKE.

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LOGGERHEAD SHRIKE.
(Lanius ludovicianus).

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alluringly gentle, and, to paraphrase a somewhat famous quotation, "It sings and sings, and is a villain still."

LOGGERHEAD SHRIKE

The Loggerhead Shrike, Butcher Bird, or Mouse Hawk, appears from Florida northward to New York and westward to Indiana; from the latter State westward to the Plains and north into Michigan, Wisconsin, and Minnesota, we have a closely allied species described as the migrant shrike; another sub-species, a still lighter form, ranging west to the Pacific Coast, is called the California shrike.

Shrikes are solitary and are seldom abundant, but are easily observed because of their habit of frequenting conspicuous places. They resort about thorny hedges along highways, so that occasionally several pairs may be observed within a distance of half a mile along a country road, and then one may not encounter another for several miles. Their peculiar flight should enable the observer to recognize the birds, as the white patches on the wings and tail are conspicuous field marks.

Commonly known as the butcher bird, these savage, carnivorous birds eagerly devour the brains of their victims. On thorns and barbed-wire fences are impaled the bodies of sparrows and mice, and often grasshoppers and snakes meet a similar fate. Shrikes possess a hooked beak, suggestive of the hawk, but they have weak feet, as do other perchers. This largely accounts for the peculiar habit of impaling the prey to be held while eaten. They perch in a manner similar to the flycatchers, and instead of pursuing their prey,

they remain patiently in a conspicuous place awaiting the approach of some tempting morsel, when they suddenly descend upon the unsuspecting victim. The shrike has a habit of accumulating a store of birds or insects on barbs or thorns, even after his hunger is satisfied. It is supposed they return if hungry, though they seem usually to have fresh meat for their meals.

The loggerhead or migrant shrike is with us in the Great Lakes region from early March to October. These birds seem to prefer comparatively open, level areas, and frequently are seen perching upon fences and telephone wires. In many cut-over regions, especially if placed under cultivation, these birds are breeding in greatly increased numbers. These prolific birds lay five or six eggs, occasionally rearing two broods in a season. They invariably attempt to rear a brood if the first or even the second setting is destroyed.

The shrikes nest early, frequently sitting upon their eggs during the cold days of April, when the wind sweeps with full force across the prairies. They prefer sites in hedges or thorn bushes. The nests are warmly built of vegetable fibers, stems, and hay, warmly lined with Indian hemp and feathers.

RED-EYED VIREO

The Red-eyed Vireo, probably the commonest of the vireos, inhabits North America as far west as the Rockies, ranging from the Gulf to Hudson Bay. All members of the vireo family are natives of America, though most are

RED-EYED VIREO.
9/10 Life-size.

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NEST OF THE RED-EYED VIREO.
(Vireo olivaceus).
About Life-size.

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inhabitants of tropical and sub-tropical regions. The prevailing colors of these birds are various shades of light green and gray, which harmonize admirably with their surroundings.

How many people have I encountered who ask me to name "the bird that sings all day long in the shade trees about our lawn." Catch a glimpse of the red-eyed songster and you will be surprised to learn that the glad volume of song which is entertaining you throughout the day and evening during the torrid heat of July and August issues from the throat of so small a bird. Seek an introduction to this vireo, and you will find him equally curious to see you. As to forming an acquaintance with him, that is another matter, as he commences to sing in a manner which would indicate from the rising inflection of his voice that a closer acquaintance is not desired.

These birds are decidedly insectivorous, and devour great quantities of injurious worms and insects and their larvæ.

The nests of the different species do not differ greatly from each other in construction or situation. In country places where huge shade trees overhang the village streets the vireos revel among the foliage, constructing their pensile nests among the drooping branches of some elm, sycamore, or maple.

A nest of three eggs in my collection, taken May 15, 1896, is composed of bark, fibers, string, and down, lined with long, coarse hairs. The nest was suspended at the end of a maple limb, ten feet from the trunk of a tree, twenty-five feet from the ground. Other names of this bird are Red-eyed Greenlet, Red-eyed Flycatcher, and the Preacher.

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THE WARBLING VIREO*

The vireos are a family of singers and are more often heard than seen, but the Warbler has a much more musical voice and of greater compass than any other member of the family. The song ripples like a brook, floating down from the leafiest tree-tops. It is not much to look at, being quite plainly dressed in contrast with the red-eyed cousin, the largest of the vireos. In nesting time it prefers seclusion, though in the spring and mid-summer, when the little ones have flown, and nesting cares have ceased, it frequents the garden, singing in the elms and birches, and other tall trees. It rambles as well through the foliage of trees in open woodland, in parks, and in those along the banks of streams, where it diligently searches the under side of leaves and branches for insect life, "in that near-sighted way peculiar to the tribe." It is a very stoic among birds, and seems never surprised at anything, "even at the loud report of a gun, with the shot rattling about it in the branches, and, if uninjured, it will stand for a moment unconcerned, or move along, peering on every side amongst the foliage, warbling its tender, liquid strains."

The nest of this species is a strong, durable, basket-like fabric, made of bark strips, lined with fine grasses. It is suspended by the brim in slender, horizontal forks of branches, at a great height from the ground.

"The eggs are white with a few brown specks on the large end. These birds breed throughout the United States and southern Canada."

WARBLING VIREO.
Life-size

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YELLOW-THROATED VIREO.
(Vireo flavifrons)
½ Life-size

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THE YELLOW-THROATED VIREO*

The popular name of this species of an attractive family is Yellow-throated Greenlet, and our young readers will find much pleasure in watching its pretty movements and listening to its really delightful song whenever they visit the places where it loves to spend the happy hours of summer. In some respects it is the most remarkable of all the species of the family found in the United States. "The Birds of Illinois," a book that may be profitably studied by the young naturalist, states that it is decidedly the finest singer, has the loudest notes of admonition and reproof, and is the handsomest in plumage, and hence the more attractive to the student.

A recognized observer says he has found it only in the woods, and mostly in the luxuriant forests of the bottom lands. The writer's experience accords with that of Audubon and Wilson, the best authorities in their day, but the habits of birds vary greatly with locality, and in other parts of the country, notably in New England, it is very familiar, delighting in the companionship of man. It breeds in eastern North America, and winters in Florida, Cuba, and Central America.

The vireo makes a very deep nest, suspended by its upper edge, between the forks of a horizontal branch. The eggs are white, generally with a few reddish-brown blotches. All authorities agree as to the great beauty of the nest, though they differ as to its exact location. It is a woodland bird, loving tall trees and running water, "haunting the same

places as the solitary vireo." During migration the yellow-throat is seen in orchards and in the trees along sidewalks and lawns, mingling his golden colors with the rich green of June leaves.

BLUE-HEADED VIREO

The Blue-headed, or Solitary, Vireo ranges from the Atlantic west to the Great Plains, practically from the southern tier of States northward, wintering from Florida to Brazil. Dr. Elliot Coues describes its song as "pitched in a higher key than the other vireos." It is by no means the recluse that its name would imply. Mr. Bradford Torrey writes: "A bird of winning tameness. Wood bird as it is, it will sometimes permit the greatest familiarities. I have seen two birds which allowed themselves to be stroked in the freest manner while sitting on the eggs, and which ate from my hand as readily as any pet canary."

The blue-headed is one of the first vireos to arrive in the spring and last to depart in the fall. It sings at its work, and many consider it the finest singer of the family.

The pensile nest of pine needles, plant down, etc., suspended from a forked branch five to ten feet up, usually contains three or four eggs.

WHITE-EYED VIREO

The White-eyed Vireo ranges throughout eastern United States from Florida to the northern tier of States, wintering from Florida south.

"Vireos are valuable gleaners, and may be distinguished

BLUE-HEADED VIREO
(Vireo solitarius)
⅔ Life-size.

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WHITE-EYED VIREO.
(Vireo noveboracensis.)
About Life-size.

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from other tree-inhabiting, greenish birds of similar size by their habit of carefully exploring the under surfaces of leaves and the bark, including the various crevices. These highly musical little birds have songs and call notes which may be quickly recognized, once they are known.

"Unlike our other vireos, the white-eyed lives in the lower growth. He is, therefore, nearer our level, and seems to trust us more than do the others that call from the tree-tops. He has a variety of musical calls, and sometimes may be heard softly singing a song composed largely of imitations of the notes of other birds.

"The white-eyed may readily be known from the red-eyed and warbling vireos by the white bars across the tips of its wing coverts. In this respect it greatly resembles the yellow-throated, but it is to be distinguished by its smaller size, white iris, and white breast, only the sides of the breast being tinged with yellow." (Chapman.)

In construction the nest is very similar to that of our other vireos, but Wilson, the ornithologist, named this bird "Politician," because it frequently uses bits of newspaper in the construction of its nest.

CHAPTER XVIII

WARBLERS

Warblers are found in America only, and with a few exceptions are arboreal, hence the term "wood warblers." They are almost exclusively insectivorous, hence highly migratory and useful. More than all other birds, are they the victims of lighthouses and electric lights in cities, as they migrate by night. They are more or less gregarious and sociable when migrating, several species freely mingling in flocks. The last to arrive in the spring, they are the first to leave in the fall. They may be plentiful one day, and have entirely disappeared the next. They are mostly bright-plumed, but only a few are skilled as vocalists. The amateur nature student is apt to confuse finches and warblers. The tide of warblers passes through the United States when the fruit trees are in bloom, and the birds are of great benefit in destroying insects which are then awaiting the opportunity to attack the young fruit.

In procuring food, some take insects from exposed parts of twigs and leaves, some carefully search the under parts of leaves and the cracks and crevices of trunk, etc., while others catch a large part of their food on the wing. Bird lovers take delight in studying them through opera glasses, constantly finding new species at times of migrations.

"What limitless possibilities in a flock of warblers! Who can say what rare species may be among them?"

BLACK AND WHITE WARBLER

The range of this warbler is eastern North America, breeding north to Fort Simpson, and wintering in Florida and South.

"Although placed at the head of the family of wood warblers, this modest bird comes more naturally into comparison with creepers and nuthatches. He clings and creeps, or rather hops, along the bark of the trunk and the larger branches. He lacks much, it is true, of being the methodical plodder that the brown creeper is; he covers a great deal more surface in a given time, and is content with a rather superficial examination of any given territory. Then again he secures variety, not merely by tracing out the smaller limbs, but by moving in any direction — up or down or sidewise — or even by darting into the air now and then to capture an insect. Not infrequently he may be seen gleaning from the bark of bushes and saplings near the ground, or again in the tops of the very tallest elms. Apple trees are cherished hunting grounds, and it is here that one may cultivate a really intimate acquaintance.

"The Black and White is among the earlier migrant warblers, coming as it does during the last week in April and before the leaves are well out. At this time it is quite a conspicuous bird, in spite of the fact that its striped coat roughly approximates to the lights and shadows in the bark of a tree; but it is usually silent. When it does speak, a few days later, its voice is a wiry, squeaking song, likely to be lost to ear altogether amid the full chorus of warbler

BLACK AND WHITE CREEPING WARBLER.
(Mniotilta varia).
About Life-size.

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week; but when the rush is over the singer will be heard. At best the song is a tiny sibilation of no great carrying power: 'Squeech, weech, weech, weech, weech,' lisped out in two keys, is one rendering." (Dawson.)

PROTHONOTARY WARBLER

The range of this exquisite warbler is eastern United States, breeding from the Gulf to central Illinois and Virginia, less common east, and wintering in the tropics.

At first glance we look upon these birds as natives of the tropics, because of the brightness of plumage of the males. They confine themselves to river bottoms and usually take possession of hollow stumps where the tree swallows and chickadees are their neighbors. They have not the northerly range the other warblers possess, but wander occasionally to the Great Lakes region. The birds are more common in Iowa, Illinois, and Indiana, breeding in the swamps, especially along the Illinois and Kankakee rivers.

Their alarm note is a distinct "peep," reminding one of the solitary sandpiper or water thrush. When the birds arrive from the South, late in April, they frequent the treetops, but gradually descend to the willows, and early in May they have taken possession of some hollow, usually not to exceed five feet above the ground or water.

The birds are decidedly insectivorous, and the regions inhabited by them furnish an unlimited supply of small winged insects, mostly injurious; hence the bird is highly useful.

Four to six white eggs are laid in a nest composed of

moss, a few leaves, and stems. The markings are of lilac, and various shades of red clustered at the larger end.

SWAINSON'S WARBLER*

Swainson's Warbler has a peculiar and interesting history. This species has the honor of being discovered, and then practically lost to sight for about forty years.

In 1832, the Reverend John Bachman discovered this warbler, near Charleston, South Carolina. The specimens were placed in the hands of Audubon, who recognized that a new species had been found, and gave it the Latin name that it now bears. In his "Birds of America," Audubon quotes the following record of Mr. Bachman: "I was first attracted by the novelty of its notes, four or five in number, repeated at intervals of five or six minutes apart. These notes were loud, clear, and more like a whistle than a song. They resembled the sounds of some extraordinary ventriloquist in such a degree that I supposed the bird much farther from me than it really was; for after some trouble caused by these fictitious notes, I perceived it near to me, and soon shot it.

"The form of its bill I observed at once to differ from all other known birds of our country, and was pleased at its discovery."

Even at the present time, Swainson's warbler may be considered common in only certain localities within its range, which may be given as including the southern United States northward to North Carolina and Missouri and east of Texas. It winters in the tropics.

SWAINSON'S WARBLER.
(Helinaia swainsonii).
About Life-size.

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WORM-EATING WARBLER.
(Helmitherus vermivorus.)
About Life-size.

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The habits of this warbler make it a difficult bird to find. It is fastidious, and as Mr. Brewster says, "four things seem indispensable to his existence, viz.: water, tangled thickets, patches of cane, and a rank growth of semi-aquatic plants." Such localities are not only difficult to find, but also uninviting fields to explore.

"It is ventriloquial to such a degree that there is often great difficulty in tracing it to its source. You advance confidently enough at first, when suddenly the sound comes from behind you. Retracing your steps, the direction is again changed. Now it is to the right, shortly after to the left; one moment in the tree-tops overhead, the next among the bushes almost at your feet."

THE WORM-EATING WARBLER*

The Worm-eating Warbler is much more retiring and less often noticed than most of the species of warblers. Unlike many of the species, its range does not reach to the Northern coniferous forests. Passing the winter in the countries bordering the Gulf of Mexico, it migrates in the spring throughout the eastern United States, breeding as far north as Illinois and Connecticut. Its dull color and retiring and shy disposition eminently fit it for its chosen hunting grounds—the deep and thick woods, bordering ravines, where there is an abundant undergrowth of shrubs.

Its song closely resembles that of the chipping sparrow, and may even mislead the trained field ornithologist. As it deliberately hunts for insects among the dry leaves on the

ground or on the lower branches of shrubs, its slow motions are more like those of the vireo than of a warbler.

While walking through woods frequented by this rare little warbler, the experiences of Mr. Leander Keyser are that of all who have had the pleasure of meeting it among the trees. He says: "Suddenly there was a twinkle of wings, a flash of olive-green, a sharp chirp, and then before me, a few rods away, a little bird went hopping about on the ground, picking up dainties from the brown leaves. It was a rare worm-eating warbler. The little charmer was quite wary, chirping nervously while I ogled him — for it was a male, and then hopped up into a sapling, and finally scurried away out of sight."

It builds its nest on the ground among the dead leaves and under the protecting shade of large-leaved herbage or low shrubs. The nest is rather large for the size of the bird. Grasses, small roots, the fibrous shreds of bark, and a few dried leaves are used in its construction.

THE BLUE-WINGED YELLOW WARBLER*

Not a great deal is known about many of the warblers, and comparatively little has been observed of this member of the very large family, comprising more than one hundred species. This specimen is also recognized by the name of the Blue-winged Swamp Warbler. Its habitat is eastern United States, chiefly south of forty degrees and west of the Alleghanies, north irregularly to Massachusetts and Michigan, and west to border of the Great Plains. In winter it lives in eastern Mexico and Guatemala.

BLUE-WINGED YELLOW WARBLER.
Life-size.

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GOLDEN-WINGED WARBLER.
Life-size.

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It has been pointed out that the name of this bird is misleading, as the blue of the wing is dull and inconspicuous, and not blue at all in the sense in which this color distinction is applied to some other birds. When applied to the warblers, it simply means either a bluish-gray, or slate, which seems barely different from plain gray at a short distance.

In half-cleared fields which have grown up to sprouts, and in rich open woods in the bottom-lands, where the switch-cane forms a considerable proportion of the undergrowth, the Blue-winged Yellow Warbler is one of the characteristic birds, says Ridgway. The male is a persistent singer during the breeding season, and thus betrays his presence to the collector, who finds this, of all species, one of the easiest to procure. His song is very rude. The nest is built on the ground, among upright stalks, resting on a thick foundation of dry leaves. The eggs are four or five, white, with reddish dots. The food of the warbler consists almost wholly of spiders, larvæ, and beetles, such as are found in bark, bud, or flower. The birds are usually seen consorting in pairs. The movements of this warbler are rather slow and leisurely.

GOLDEN-WINGED WARBLER

The range of the Golden-winged is the eastern United States, breeding from Indiana and northern New Jersey north to Michigan, southern Ontario, and Vermont, and south along the Alleghanies to South Carolina. It winters in South America.

"The first glimpse of a new warbler is always memorable, but an introduction to this dashing young fellow is especially so. You may have looked for years in vain, when suddenly one May morning you come upon him in the swampy woods, restless, full of life, and in the highest spirits. The young hickories are just about to open their reluctant palms, the gallant mounts a high bud, throws back his head, and sputters out 'Zee, zee, zee, zee, zee,' in double time in comparison with his drowsier relative, the blue-wing. Without waiting for applause he charges after a vagrant fly, snaps him up, and takes to a sweet-smelling spice-bush for another round of music. A passing vireo, which, by the way, was born thereabouts, is fiercely assailed by the swaggering stranger, and retires in confusion." (Dawson.)

The nest of stems, pine needles, leaves, and grasses is placed in a clump of weeds, tussock of grass, or small shrub. The situations most liked are woodland pastures or weedy fields. The four or five eggs are white, speckled with dark brown and purple.

THE NASHVILLE WARBLER

The Nashville Warbler is common during the migrations in many parts of the country. Its range extends from the Atlantic Ocean west to eastern Nebraska and north into Labrador and the fur countries, occasionally wandering even to Greenland. It winters in the tropics south of the United States.

In the northward migration it reaches Texas about the third week in April and Manitoba near the end of the first

NASHVILLE WARBLER.
[illegible]
Linnæus.

ORANGE-CROWNED WARBLER
(Helminthophila celata).
Life-size.

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week in May, thus passing completely across the country in about three weeks.

The song has been compared to that of the chestnut-sided warbler and to the chipping sparrow combined. To my ear the Nashville warbler's song is enough unlike the song of any other bird to be easily recognized after a single hearing. My note book renders it thus: "K tsip, k tsip, k tsip, k tsip, chip ee, chip ee, chip ee, chip."

In common with the other members of this genus, the Nashville warbler nests on the ground, usually in a spot well protected by dried grasses and other litter of the previous year's growth, often in a tangle of shrubs, ferns, and bushes. The nest is sometimes sunk flush with the surface, and is composed of grasses, mosses, pine needles, strips of bark, and leaves, lined with finer material of the same sort and with hair-like rootlets, the composition varying with the locality. The eggs are pure white or creamy-white, marked with spots and dots of reddish-brown and the usual lilac shell-markings, which are grouped more or less around the larger end. They are four or five in number, and average about .61 x .48 of an inch. LYNDS JONES.

THE ORANGE-CROWNED WARBLER*

The Orange-crowned Warbler is one of those warblers which is quite erratic in its appearance in any given locality during its migrations; some seasons it may be common and in other seasons its presence may not be noted at all. It breeds in the interior of British America, in the Rocky Mountain regions, and as far northward as the Yukon dis-

trict of Alaska. In its migrations it passes through the Mississippi Valley, being very rare in those states bordering the Atlantic Ocean north of Virginia. It winters in the South Atlantic and Gulf States and in Mexico, and is a common species in Florida during this season.

This little warbler is constantly in motion during the daylight hours in the foliage of the higher tree branches. Seemingly to satisfy its tireless energy, it frequently stops its hunt for insects to utter its simple song. Mr. Ernest Thompson, in his *Birds of Manitoba,* describes this song as sounding like chip-e, chip-e, chip-e, chip-e, and says: "Its song is much like that of the chipping sparrow, but more musical and in a higher key." To Dr. Wheaton its refrain is a "loud, emphatic, and rather monotonous song, resembling, as nearly as he can describe, the syllables chiky-tick-tick-tick-tick; this song was louder and more decidedly emphasized than that of any member of the genus with which he was acquainted." Colonel Goss hears in the song "a few sweet trills uttered in a spirited manner and abruptly ending in a rising scale."

Its nest is usually built on the ground, in clumps of bushes and quite hidden by dried leaves. The nest is large for the size of the bird, and is constructed with plant stems, strips of fibrous bark, and dry grasses loosely woven together. Not infrequently, also, leaves are used in the construction of this outer wall. The eggs are white with rufous or cinnamon-brown spots or specks which are more numerous at the larger end. They are four or five in number and are deposited about June first. In size the eggs average .63 in. by .49 in.

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TENNESSEE WARBLER.
(Helminthophila peregrina).
Life-size.

THE TENNESSEE WARBLER*

During the spring and fall migrations the Tennessee Warbler is a common bird in many localities of the eastern United States. Its breeding range extends from Minnesota, New York, and northern New England northward to the latitude of Hudson Bay, and it winters in Mexico and Central America.

This "nymph of the woodland" is a very active bird and extremely dextrous in catching insects which it seeks in the foliage of trees, both of the forest and the orchard. It seems to be especially fond of the willow trees and shrubs that grow on the banks of water-courses, where there is an abundance of insect life, and it is not an uncommon visitor in the denser foliage of tamarack swamps. While it prefers the borders of an open forest, it not infrequently visits, during its fall migration, cornfields and vineyards, and may even be seen in large gardens.

Constantly alert, the Tennessee warbler flutters through the outer foliage of trees, where, with its sharp and slender bill, which is admirably adapted for the purpose, it picks innumerable small insects from the leaves and twigs.

Its song is not easily described. By many the song has been likened to that of the Nashville warbler, but Mr. Bradford Torrey says that the two are so decidedly different as never for a moment to be confounded, though the former is suggestive of the latter. The Tennessee's song is certainly much shriller than that of the Nashville warbler. Mr. Ernest Thompson has described its song as beginning "with

a note like chipiti, chipiti, repeated a dozen or more times with increasing rapidity, then suddenly changed to a mere twitter."

The Tennessee warbler nests in low bushes or upon the ground, building its home with fine fibers and grasses interwoven with mosses and lined with hair.

PARULA WARBLER

The range of the Parula Warbler is eastern North America, breeding from the Gulf to Canada and wintering in Florida and south.

The head and throat of this warbler is deep bluish-gray, becoming much blacker on the breast. This appearance has suggested the name parula warbler. Parula warblers have been subdivided and are described as northern parula and the parula. As usual, we find the larger or hardier bird visits the more rigorous climates, as the northern parula, inhabiting the states bordering the Great Lakes and New England, is slightly larger than the parula which may be found south of the Ohio River, ranging from the Atlantic Coast to Texas. Both varieties are frequently called the blue yellow-backed warbler.

The food consists of spiders, small insects, including flies and various other winged forms, and caterpillars, which they are very industrious in gathering from underneath leaves and inconspicuous branches of the trees they frequent. Like other warblers, they are highly useful to horticulture.

Aside from the cerulean warbler, probably no other

PARULA WARBLER.
(Compsothlypis americana).
Life-size.

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CAPE MAY WARBLER
(Dendroica tigrina).
Life-size.

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member of this family lives at so great an elevation above the ground, except those forms which are partial to coniferous trees. The peculiar song ends in a little screech.

Sometimes these birds nest in small colonies. Like the cedar waxwing and dickcissel, they are irregular residents, breeding in some parts during certain years and perhaps they are not seen again in the same locality for several seasons.

Their manner of nest-building is unique, as they are partial to trees which are draped with usnea moss. Among the hanging festoons of this "Spanish moss" the little birds construct a cavity, into which they carry soft vegetable substances, such as thistle-down and the "cotton" of the cottonwood. The nests are difficult to detect unless one is fortunate enough to observe the birds when they are entering these long appendages. Usually four white delicately wreathed eggs are laid in May.

THE CAPE MAY WARBLER

The Cape May Warbler belongs among the less common species, but may be common for a day or two during the height of the migration. It is very fond of orchards, where it feeds among the foliage, snatching an insect here, a larva there, and cleaning the bundle of eggs from the leaf over yonder with an untiring energy. They also associate more or less with the other warblers in the woods. They are of great value to the fruit grower.

This species is found from the Atlantic Coast west to the plains and north to Hudson's Bay, passing the winter in

the tropics. It breeds from northern New England to Hudson's Bay, and probably in northern Minnesota. The nest is built in a low bush in a wooded pasture or open woodland, said to be partially pensile. The nest and eggs are not readily distinguishable from those of several other warblers. The males sing frequently from their perch on the topmost twig of a spruce tree, thus misleading one as to the whereabouts of the female and nest. The song resembles somewhat that of the black and white warbler, but is rather less wiry. It cannot be represented on paper.

The tongue of this bird is worthy of special notice. It is cleft at the tip, and is provided with somewhat of a fringe. This character is not peculiar to this species, but is found in some honey creepers and in at least one foreign family of birds, thus suggesting, at least, the relationship of the warblers as a group. It might be asked, what is the significance of this character as regards feeding habits? Apparently nothing, since the feeding habits and food do not differ from those of other warblers not having the cleft tongue as greatly as the tongues themselves differ in structure. It is apparently an aberrant character developed somewhat at random among groups nearly related, or perhaps a remnant of structure. LYNDS JONES.

YELLOW WARBLER

The range of the Yellow Warbler is North America, except the Southwestern States, breeding north to the Arctic regions and wintering south to South America.

It is decidedly the commonest of the warbler family,

YELLOW WARBLER.
$\frac{3}{4}$ Life-size

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BLACK-THROATED BLUE WARBLER.
(Dendroica caerulescens, Gmel).
Life-size.

and is often called summer yellow bird, or wild canary. The latter name is entirely inappropriate, and should refer to the goldfinch. The yellow warbler is less retiring in his habits than other birds of the family. It commonly nests about our dooryards, along public highways, in parks, in second-growth timber, and in berry patches, and is an interesting and a highly useful bird. Probably no other bird is imposed upon so frequently by the cowbird as is this little warbler. Cowbirds frequently deposit their eggs in the nest of this warbler before the owner is ready to occupy her abode. As a result the parent frequently constructs another bottom to her nest, thereby disposing of the cowbird's egg. Larger birds are strong enough to throw the eggs of the cowbird to the ground. Sometimes the yellow warbler is obliged to construct three basements to her nest in order successfully to lay her own eggs and rear her brood without having to feed the young cowbirds.

The nests are very artistically built of Indian hemp, plant down, and sometimes sheep's wool. The lining is of willow down, cottonwood down, and feathers. The four or five eggs are laid about June 1st. The background is bluish-white and the markings are of dark brown, often forming a wreath about the larger end.

BLACK-THROATED BLUE WARBLER

The "Black-throat" haunts the underbrush, particularly laurel, maple, and oak shrubs. May and September are the months we have this bird with us as a transient through the middle United States. It breeds from the

Adirondack, Alleghany, Green, and White Mountains west through northern Michigan, Wisconsin, and Minnesota, northward to Labrador, wintering in the tropics.

The majority of our warblers have yellow or the bi-colors, orange or green, in some parts of their plumage. This handsome little fellow, like the cerulean, is blue above, but the back, head, wings, and tail are much darker than the corresponding parts in the sky-blue cerulean. The throat is black, lower breast and under parts white. The female has the blue replaced with greenish brown, but either sex may be distinguished by the white patch on the wing.

In 1905 I encountered several males in full song in northern Wisconsin. They were conspicuous while singing as they perched upon low branches overlooking an open spot in the timber, preferably where the ground was uneven. Throwing back their heads and swelling their throats, their song was a dainty imitation in style and quality of that of our dickcissel. Three years later I revisited Butternut Lake, Wisconsin, and after locating a couple of birds singing on a bushy hillside, I carefully searched the maple saplings until I was rewarded by finding a nest. The four pearly-white eggs were beautifully wreathed at the larger end with dull reddish-brown.

MYRTLE WARBLER

The Myrtle Warbler ranges through eastern North America, breeding north of the United States and wintering from the Middle States southward.

The myrtle, or yellow-rumped, warbler is one of the

MYRTLE WARBLER.
Life-size.

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AUDUBON'S WARBLER.
(Dendroica auduboni.)
⅗ Life-size.

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largest and commonest of the family. It occurs chiefly east of the Mississippi River, and is represented on the Pacific Coast by an Alpine form known as the Audubon's warbler. While the myrtle warblers differ decidedly in plumage, either sex may be identified by the bright yellow patch at the base of the tail feathers. This is clearly distinguishable when the bird flies or moves about through the brush. Like most of our warblers, the myrtle is a migrant in the Great Lakes region, arriving ahead of most insectivorous birds, even before the foliage is out. While there are no records of myrtle warblers' breeding in the United States, strangely enough, this bird has been found breeding in Jamaica, West Indies.

The birds show a decided preference for coniferous trees, and may be found nesting in cedar and hemlock forests in company with magnolia, Blackburnian, and black-polled warblers.

The nests are constructed of fine stems and grass, lined with a few hairs and feathers.

THE AUDUBON'S WARBLER*

Audubon's Warbler bears the same relation to the western United States that the myrtle warbler bears to the Eastern States. It inhabits the forests and thickets of the West from British Columbia southward as far as Guatemala in winter, and, as Dr. Coues has stated, it has rarely been known to pass to the eastward beyond the line of arboreal vegetation, which marks the easternmost foothills and outlying elevations of the Rocky Mountains.

During its migrations it is often associated with the titmouse and the ruby-crowned kinglet. It may be seen skipping about in the tree-tops, actively engaged in searching for insects, which it will at times pursue in the air. It may be readily distinguished from the myrtle warbler, which it so closely resembles both in habits and actions, by its yellow instead of white throat, which is characteristic of the myrtle warbler.

Its nest is usually built in cone-bearing trees at a variable altitude of from three to thirty feet. These homes are neatly woven and usually constructed of fine strips of bark, pine needles, and twigs. They are lined with fine roots, bark fibers, hair, and feathers. In Colorado it is known to breed on the mountain sides at an altitude of nine or ten thousand feet.

The habits of this little warbler are well portrayed by Mrs. Whitman:

> "The little bird upon the hillside lonely
> Flits noiselessly along from spray to spray."

MAGNOLIA WARBLER

The Magnolia Warbler breeds from Minnesota and Manitoba eastward across the northern tier of States and through southern Canada.

While passing through the middle United States, the magnolia warbler is oftenest found moving quietly through the bushes which line the banks of streams or lean over swampy pools in the depth of the forest, where its brilliance seems fairly to dispel the gloom. If one finds His

MAGNOLIA WARBLER
(Dendroica maculosa).
Life-size.

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CERULEAN WARBLER.
(Dendroica caerulea.)
⅞ Life-size.

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Magnificence fluttering above an insect-laden leaf, his cup of joy is full. But the bird is no recluse, and numbers of them join that bright array which consecrates our tree-tops year by year.

The song of the magnolia, though not often heard, is clear and musical and fairly distinctive.

The nests, hidden in evergreens, from four to forty feet above the ground, are built of stiff stems, lined with fine stems and a little grass. Four or five eggs are laid in May or June. They are pale bluish-white, spotted and blotched with different shades of red and brown.

CERULEAN WARBLER

The Cerulean Warbler, commonly called the blue warbler, inhabits the United States west to Nebraska and Minnesota, breeding from the States bordering the Great Lakes northward through New England, Quebec, and Ontario, and wintering in the tropics. This little warbler probably haunts the highest timber of any that frequents deciduous growth. It may be considered a rare summer resident in northern Illinois and Indiana.

Audubon describes the song as extremely sweet and mellow. The favorite call note is a dainty lisp, " Tweet-tweet-tweet-twee-ee," ending with a trill or twanging effect on the ascending scale. These birds of the tree-tops are partial to elm and oak timber, usually at the edge of the forest. Like the chestnut-sided warblers, these little fellows have a smart bantam-like appearance, carrying the tail rather high and moving nervously from twig to twig.

The nests are beautifully constructed, and remind one of the abode of the blue-gray gnatcatcher. Externally they are made of grass and bark fibers, bound with spider silk and lichens; the inside of the nest is composed of fine stems and grass. These little nests are firmly attached to the drooping limb of a tree, from twenty-five to fifty feet above the ground. Four or five eggs are deposited.

CHESTNUT-SIDED WARBLER

The Chestnut-sided Warbler is one of the commonest of eastern North American warblers, occurring chiefly west of the Mississippi River, but in more southerly latitudes than most of our warblers, excepting the yellow and the black and white. The song of the chestnut-sided warbler is suggestive of the yellow warbler, and the two frequent similar growths of brush and woodland, but in different localities. In central Ohio, northern New York, and the New England States, this bird summers in company with the prairie warbler. There are one or two nesting records for this bird in northern Illinois. It is an abundant summer resident in upper Minnesota, Wisconsin, and Michigan. I found a number of nests during the first week of June around Butternut Lake, Wisconsin. The birds seem partial to berry bushes and small maples at the edge of woodlands.

The nests are loosely constructed of grass and coarse stems, lined with finer material. The four or five eggs are laid about June 1st. They have a dull bluish-white background and are spotted with shades of brown, chiefly at the larger end.

CHESTNUT-SIDED WARBLER.
(Dendroica pensylvanica).
Life-size.

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BAY-BREASTED WARBLER.
(Dendroica castanea).
Life-size.

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THE BAY-BREASTED WARBLER*

The Bay-breasted, which is also popularly called Autumnal, Warbler breeds from northern New England and northern Michigan northward, its nest being found in low, swampy woods, where there is a mixture of evergreens, oak, birch, elm, and other trees. It is compact, cup-shaped, and usually placed in coniferous trees, from five to fifteen or even twenty feet above the ground. Fine shreds of bark, small twigs, fibrous roots, and pine hair are used in its construction. Four eggs are laid, which are white, with a bluish tinge, finely speckled on or around the larger end with reddish-brown.

Comparatively little is known of the habits of this species. It passes in spring and fall, on its way to the North, being sometimes abundant at both seasons, but does not tarry long. In general habits, at all times, it closely resembles other species of the genus. In Oxford County, Maine, says Mr. Maynard, these birds are found in all the wooded sections of that region, where they frequent the tops of tall trees. The species seems to be confined during the building season to the region just north of the White Mountain range.

Ridgeway says: "Tanagers are splendid; hummingbirds are refulgent; other kinds are brilliant, gaudy, or magnificent; but warblers alone are pretty in the proper and full sense of that term. When the apple trees bloom, the warblers revel among the flowers, vying in activity and in number with the bees; now probing the recesses of a

blossom for an insect which has effected lodgment there, then darting to another, where, poised daintily upon a slender twig, or suspended from it, he explores hastily but carefully for another morsel."

THE BLACK-POLL WARBLER*

Few birds have a wider and more extended range than the Black-poll Warbler. Wintering in the southern United States, Central America, and the northern part of South America, they move northward in the spring, reaching Greenland and Alaska in June. Their range extends to the westward as far as the Rocky Mountains. Their breeding range is nearly confined to the regions north of the United States.

The nest is interesting. It is usually placed on a large branch at its junction with the trunk of the tree. A cone-bearing tree is selected, and the spruce is preferred, as in it the nest is more perfectly obscured. The Black-poll's house is not the delicate structure that one would expect to find as the home of so dainty a bird. This bulky structure is usually placed not higher than six or eight feet from the ground. It is constructed from the fine twigs and sprays of the evergreen trees and fine roots woven with weeds, moss, lichens, and vegetable and animal hairs. The lining consists of fine grass and feathers. Though the external diameter of the nest is fully five inches, the internal diameter seldom measures over two inches.

Mr. Langille has beautifully described the song of the Black-poll. He says: "That song, though one of the most

BLACK-POLL WARBLER.
(Dendroica striata.)
Life-size.

slender and wiry in all our forests, is as distinguishable as the hum of the cicada or the shrilling of the katydid. Tree-tree-tree-tree-tree-tree-tree-tree, rapidly uttered, the monotonous notes of equal length, beginning very softly, gradually increasing to the middle of the strain, and then as gradually diminishing, thus forming a fine musical swell—may convey a fair idea of the song. There is a peculiar soft and tinkling sweetness in this melody, suggestive of the quiet mysteries of the forest."

THE BLACKBURNIAN WARBLER*

Other common names of this beautiful warbler are Orange-throated Warbler and Hemlock Warbler.

The orange-throat is only migratory in Illinois, passing through in spring and fall, its summer home being chiefly, if not wholly, to the northward, while it passes the winter in Central America and northern South America. It is found in New York and in portions of Massachusetts, frequenting the coniferous forests and building its nest in bushes or small trees, a few feet above the ground. From all accounts, the nests of this species are elegantly and compactly made, consisting of a densely woven mass of spruce twigs, soft vegetable down, rootlets, and fine shreds of bark. The lining is often intermixed with horse hairs and feathers. Four eggs of greenish-white or very pale bluish-green, speckled or spotted, have usually been found in the nests.

The autumnal male warblers resemble the female. They have two white bands instead of one; the black stripes on the sides are larger; under parts yellowish; the throat yel-

lowish, passing into purer yellow behind. Few of our birds are more beautiful than the full-plumaged male of this lovely bird, whose glowing orange throat renders it a conspicuous object among the budding and blossoming branches of the hemlocks.

Mr. Minot describes the Blackburnian Warbler's summer song as resembling the syllables wee-see-wee-see, while in the spring its notes may be likened to wee-see-wee-see, tsee, tsee, tsee, repeated, the latter syllables being on ascending scale, the very last shrill and fine.

THE BLACK-THROATED GREEN WARBLER*

Not the least among the birds that assist man in his warfare upon insect pests are our beautiful and active warblers that frequent the foliage of trees and shrubs, patiently gathering their insect food.

One of these is the Black-throated Green Warbler of our illustration. If we desire to examine its habits, except during the period of migration, we must visit the forests of cone-bearing trees in the Northern woods of the eastern United States, in the Alleghany Mountains, and from these points northward to Hudson Bay. It is almost useless to seek this bird in other places. Here, high up in the cedars, pines, and hemlocks, in cozy retreats far out on the branches, it builds its nest. "The foundation of the structure is of fine shreds of bark, fine dry twigs of the hemlock, bits of fine grass, weeds, and dried rootlets, intermixed with moss and lined with rootlets, fine grass, some feathers and horse hair." The nests are usually bulky and loosely constructed.

BLACK-THROATED GREEN WARBLER.
(Dendroica virens).
Life-size.

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TOWNSEND'S WARBLER.
(Dendroica townsendi).
About Life-size.

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These rollicking warblers have a peculiar song which is very characteristic and not easily forgotten. The descriptions of this song are almost as numerous as are the observers. One has given this rendering: "Hear me, Saint Ther-e-sa." Another has verp aptly described it as sounding like "Wee-wee-su-see," the syllables "uttered slowly and well drawn out; that before the last in a lower tone than the two former, and the last syllable noticeably on the upward slide; the whole being a sort of insect tone, altogether peculiar, and by no means unpleasing."

The song of the black-throated green warbler is so unlike that of the other warblers that it becomes an important characteristic of the species. Mr. Chapman says: "There is a quality about it like the droning of bees; it seems to voice the restfulness of a mid-summer day."

THE TOWNSEND'S WARBLER*

The American warblers include more than one hundred species, grouped in about twenty genera. Of these species, nearly three-fourths are represented in North America, at least as summer visitants, the remaining species frequenting only the tropics. Though woodland birds, they exhibit many and widely separated modes of life, some of the species preferring only aquatic regions, while others seek drier soils. Some make their homes in shrubby places, while others are seldom found except in forests. As their food is practically confined to insects, they frequent our lawns and orchards during their migrations, when they fly in companies which may include several species. Mr. Chapman, in his

"Handbook of Birds of Eastern North America," says: "Some species flit actively from branch to branch, taking their prey from the more exposed parts of the twigs and leaves; others are gleaners, and carefully explore the under surfaces of leaves or crevices in the bark; while several, like flycatchers, capture a large part of their food on the wing."

The Townsend's Warbler is a native of western North America, especially near the Pacific Coast. Its range extends from Sitka on the north to Central America on the south, where it appears during the winter. In its migration it wanders as far east as Colorado. It breeds from the southern border of the United States northward, nesting in regions of cone-bearing trees. It is said that the nest of this warbler is usually placed at a considerable height, though at times as low as from five to fifteen feet from the ground. The nest is built of strips of fibrous bark, twigs, long grasses, and wool, compactly woven together. This is lined with hair, vegetable down, and feathers.

The eggs are described as buffy-white, speckled and spotted with reddish-brown and lilac-gray, about three-fifths of an inch in length by about one-half of an inch in diameter.

THE PALM WARBLER*

There are two varieties of this species—the Palm or Red-poll Warbler, and the Yellow Palm or Yellow Red-poll Warbler. The latter is a native of the Atlantic States and breeds from Maine northward to Hudson Bay. The former frequents the interior of the United States and

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PALM WARBLER.
(Dendroica palmarum).
Life-size.

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migrates northward as far as the Great Slave Lake. It is seldom seen in the Atlantic States except during its migrations.

Both varieties winter in the Southern States that border on the Atlantic Ocean and the Gulf of Mexico, in Mexico, and in the islands of the West Indies. While both birds are often seen in the same flock during the winter the palm warbler is much more common in Florida than is the Eastern cousin. When together, the two forms may be readily distinguished by the brighter yellow of the yellow palm warbler. Three of the large family of wood warblers may be called the vagabonds of the family, for they do not love the forest. These are the palm, the yellow palm, and the prairie warblers.

Wherever it is, it frequently utters its low "tsip," a note that is very similar to that of many of its sister warblers.

Dr. Brewer says: "They have no other song than a few simple and feeble notes, so thin and weak that they might almost be mistaken for the sound made by the common grasshopper."

The palm warbler's nest is a trim structure, usually placed upon the ground, and never far above it. The walls consist of interwoven dry grasses, stems of the smaller herbaceous plants, bark fibers, and various mosses. It is lined with very fine grasses, vegetable down, and feathers. Though this home is placed in quite open places, a retired spot is usually selected. Here are laid the white or buffy-white eggs, more or less distinctly marked with a brownish color, and a family of four or five of these peculiar warblers is raised.

THE PRAIRIE WARBLER*

This beautiful little warbler cannot fail to awaken an interest in bird life in the mind of any person whose privilege it is to observe it in its chosen haunts. These are the shrubby pasture lands and the open woods of the eastern United States. It is more common in barren, sandy places of the Atlantic Coast, where it seems to find an insect food suited to its taste. It not infrequently visits orchards when in bloom, especially those in retired localities.

"It has a curious song, if song it can be called, as much like a mouse complaining of the toothache as anything else I can liken it to—it is simply indescribable."

The flight of the Prairie Warbler is neither strong nor protracted. Yet it is one of the most expert flycatchers among the warblers. It is not a social bird, and it is very seldom that more than two or three are seen together.

The prairie warbler is prettily colored. The back is marked with reddish-brown spots on an olive-green ground. Beneath the eye of the male there is a streak of black which is absent in the female. The throat and under parts are a rich yellow color, with small spots of black on the sides of the neck. The female is duller in color.

The nest is nearly always placed in the fork of a branch of a tree or shrub, and never far from the ground. A wild rose bush is sometimes selected. Mr. Welch describes one that he found in such a place. It was mainly constructed of "the soft inner bark of small shrubs mingled with dry rose leaves, bits of wood, woody fibers, decayed stems of

PRAIRIE WARBLER.
(Dendroica discolor.)
About Life-size.

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OVEN BIRD.
¼ Life-size.

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plants, spiders' webs, etc." These were elaborately woven together and bound by "cotton-like fibers of a vegetable origin." The nest had a lining of fine fibers and horse hair. He also calls attention to the upper rim of the nest, it "being a strongly interlaced weaving of vegetable roots and strips of bark."

OVEN BIRD

The Oven Bird, or Golden-crowned Thrush, ranges throughout eastern North America, breeding from Kansas and Virginia north to Manitoba and Labrador, south along mountains to South Carolina, and wintering from Florida south.

The general outline of the oven bird is suggestive of the thrush family. Their name arises from their remarkable nest, which is placed on the ground among the leaves, ferns, or fallen logs, with the entrance on the side. The nest is covered externally with dead leaves interwoven with grass, and the lining is of fine round stems. Like the house of the ouzel, wren, and magpie, it is large for the size of the bird.

The oven bird is a common transient throughout Illinois, Indiana, and Ohio, a few remaining to breed, while in Wisconsin and Michigan they are common summer residents.

Some authors describe the song of the male by saying it resembles the word "teacher" rapidly repeated eight or ten times in succession, with greater emphasis on the last few notes. To the writer it always seems as if the little songster were trying to attract attention to himself by continually calling, "Me-sir, Me-sir, Me-sir."

The four to six eggs are white, profusely covered with

spots of dark red. While walking over fallen logs, watching a beautiful male Blackburnian warbler, I noticed a bird running through the leaves and moss with drooping wings, as if greatly distressed. Its small size and striking appearance at once disclosed the identity of the bird, and I carefully dropped to my knees and searched every square foot of ground until I discovered a little opening through which was displayed the handsomely spotted eggs of the oven bird. Had the parent remained upon her treasures, her presence would never have been suspected.

THE WATER-THRUSH*

The Water-thrush has so many popular names that it will be recognized by most observers by one or more of them. It is called small-billed water-thrush, water wagtail, water kick-up, Besoy kick-up, and river pink (Jamaica), aquatic accentor, and New York aquatic thrush. It is found chiefly east of the Mississippi River, north to the Arctic Coast, breeding from the north border of the United States northward. It winters in more southern United States, all of middle America, northern South America, and all of West Indies. It is accidental in Greenland. In Illinois this species is known as a migrant, passing slowly through in spring and fall, though in the extreme southern portion a few pass the winter, especially if the season be mild. It frequents swampy woods and open, wet places, nesting on the ground or in the roots of overturned trees at the borders of swamps. Mr. M. K. Barnum, of Syracuse, New York, found a nest of this species in the roots of a

GRINNELL'S WATER THRUSH

LOUISIANA WATER-THRUSH.
(Seiurus motacilla).

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tree at the edge of a swamp on the 30th of May. It was well concealed by the overhanging roots, and the cavity was nearly filled with moss, leaves, and fine rootlets. The nest at this date contained three young and one egg. Two sets were taken, one near Listowel, Ontario, from a nest under a stump in a swamp, on June 7; the other from New Canada, Nova Scotia, July 30. The nest was built in moss on the side of a fallen tree. The eggs are creamy-white, speckled and spotted, most heavily at the larger ends, with hazel and lilac and cinnamon-rufous.

As a singer this little wagtail is not easily matched, though, as it is shy and careful to keep as far from danger as possible, the opportunity to hear it sing is not often afforded one. Though it makes its home near the water, it is sometimes seen at a distance from it. C. C. Marble.

LOUISIANA WATER-THRUSH

The range of the Louisiana Water-thrush is eastern United States north to the Great Lakes, wintering in the tropics.

" Amidst our more modest surroundings the Louisiana water-thrush occupies much the same position relatively that the water ouzel does in the mountainous regions of the West. Both birds possess themselves of the wildest environments to be had, and both are the animating spirits of their chosen haunts. Although no one suspects any structural affinities between the two, a half dozen other close points of resemblance might be noted, as poetic temperament and talent in song.

"Only the most picturesque and unfrequented glens are tenanted by this poet-bird from the South. Where cool waters trickle down from mossy ledges and pause in shallow pools to mirror the foliage of many trees will you find the water-thrush at home. Following an imperious chink of question and alarm, he will pause at the water's edge impatiently, as though awaiting your withdrawal. The bird stands with the body horizontal or with the hinder parts elevated, jetting the tail vertically from time to time without moving the head. If you pretend to withdraw, the bird will wade about in the shallow water or search noisily among the dead leaves, uttering an energetic chink, or he tries hiding and disappears mysteriously behind a bunch of ferns. Three minutes elapse, when the shrewd observer concludes there must be a nest, and he moves forward, but the bird flies down the glen, and no nest is found.

"Wherever the nest, the bird regards himself as trustee of the whole glen, and his watchful fidelity is impartially bestowed upon all parts of it, as every half hour or so the male bird ranges its length. Now he dashes like a swallow across some open glade; now he pauses on a log or stone, alternately moving and inspecting until his voice is lost in the distance." (Adapted from Dawson's "Birds of Ohio.")

THE KENTUCKY WARBLER*

The Kentucky Warbler is recognized as one of the most beautiful of the warbler family. It is altogether a conspicuous bird, both on account of its brilliant plumage and great activity, the males being, during the season of nesting,

KENTUCKY WARBLER.
Life-size.

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MOURNING WARBLER.
(Geothlypis philadelphia).
Life-size.

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very pugnacious, continually chasing one another about the woods. It lives near the ground, making its artfully concealed nest among the low herbage, and feeding in the undergrowth, the male singing from some old log or low bush, his song recalling that of the cardinal, though much weaker. The ordinary note is a soft "schip," somewhat like the common call of the pewee. Considering its great abundance, says an observer, the nest of this charmer is very difficult to find; the female, he thought, must slyly leave the nest at the approach of an intruder, running beneath the herbage until a considerable distance from the nest, when, joined by her mate, the pair by their evident anxiety mislead the stranger as to its location.

The warblers are migratory birds, the majority of them passing rapidly across the United States in spring on the way to their Northern nesting grounds, and in autumn to their winter residence within the tropics.

MOURNING WARBLER

The Mourning Warblers inhabit the eastern portions of the United States, but are comparatively rare west of the Mississippi, except perhaps in Montana. They breed from Nebraska and the New England States northward to New Brunswick and Hudson Bay.

The bird bears a general resemblance to the Connecticut warbler, a rare species; the latter, however, possesses a white line about the eye which is always lacking in the plumage of the mourning warbler. This warbler feeds, travels, and breeds in low elevations, being partial to

growths of long grass and weeds in low, damp woods or roadsides. The simple, clear song has been described as follows: "True-true-true-tu-too," uttered on the ascending scale except the last two syllables, which convey the effect of two low whistles. When feeding or otherwise engaged, the birds seem to omit the first three notes, uttering simply the lower tones. Like the little short-billed marsh wren, they are fond of perching on a dead stump and singing persistently for many minutes at a time.

The nests are of fine grass and stems, usually placed in a dense clump of grass or between the stalks of some weed or plant growing in damp ground. The background of the four eggs is light creamy and the eggs are handsomely blotched around the larger end with rich brown and lilac.

THE MARYLAND YELLOW-THROAT

One of the first birds with which we became acquainted was the Maryland Yellow-throat, not especially because of its beauty, but on account of its song, which at once arrests attention. "Wichity, wichity, wichity, wichity," it announces from some thicket or bush where it makes its home. It is one of the most active of the warblers, and is found throughout the United States, Canada, and Nova Scotia; in winter it migrates to the South Atlantic and Gulf States and the West Indies.

The nest is not an easy one to find, being built on the ground, under the foot of a bush or tussock of rank grass, sometimes partly roofed over, like the oven bird's. The eggs are four or five, rarely six, in number, creamy-white,

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MARYLAND YELLOW-THROAT.
4-5 Life-size.

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WESTERN YELLOW-THROAT WARBLER.
(Geothlypis trichas occidentalis).
Life-size.

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speckled, chiefly at the larger end, with reddish-brown, dark umber, and black; in some, occasional lines or scrawls appear. The average size is .69 by .52 inch. Oliver Davie says that the best description of this bird's song was given by Mr. Thomas M. Earl. One evening in May he was returning from a day's hunt, and, after a rest on an old log, he was about to start on his journey homeward. At this instant a little yellow-throat mounted a small bush and, in quick succession, said: "Tackle me! tackle me! tackle me!" The fact is, the yellow-throat has several notes and is rather noisy for so small a bird. It is known by other names, as black-masked ground warbler, black spectacled warbler, brier wren, and yellow brier wren.

The female is much duller in color than the male, without black, gray, or white on head. The young are somewhat like the adult female. C. C. M.

WESTERN YELLOW-THROAT

The Western Yellow-throat occurs from the Mississippi River to the Rocky Mountains, breeding north to Manitoba and wintering in Central America. In habits and general appearance he is very similar to the Maryland yellow-throat, which occurs in the Mississippi Valley, Great Lakes region, and eastern United States north of the Ohio River. From California to British Columbia, a sub-species known as the Pacific yellow-throat occurs; in southwestern United States, another form, called the Rio Grande yellow-throat, is found, and we have the Florida yellow-throat in the southeastern portion of the United States.

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No bird sings with greater vim and vigor than the yellow-throat. It haunts the rank grass and low shrubbery in wet places. The male may be heard calling "whee-chee-chee," which is the writer's interpretation of the song. Some authors describe him as saying "wichity, wichity." These birds destroy great numbers of worms and moths and their larvæ, so are highly useful to the interests of man.

The nests are placed in thick clumps of grass, sometimes in a low bush, well concealed by rank vegetation. Three to five creamy-white eggs with dots and lines are laid.

YELLOW-BREASTED CHAT

This large warbler inhabits the eastern United States, west to Dakota, Kansas, and eastern Texas, north to southern Ontario and southern New England, being a common summer resident in various portions of the States bordering the Great Lakes. It winters in eastern Mexico and Central America to Costa Rica.

Thickets bordering roadsides, streams, and swampy places are the most likely spots in which to look for this bird, it being easier to find him by his notes than by his appearance.

Mr. Frank M. Chapman says: "No other warbler is possessed of the chat's individuality. Although the chat avoids rather than seeks observation, he by no means shuns the habitations of man, and, when favorable cover was offered, I have known these birds to nest in a village. Because of the nature of his haunts, he has the bird student at a complete disadvantage. When seemingly almost within

YELLOW-BREASTED CHAT.
⅓ Life size.

reach, he is still invisible, and one might well imagine that he intentionally leads him through the most impenetrable part of his haunts merely to enjoy our futile efforts to see him. If, however, you would see the chat satisfactorily, fight him with his own fire. Seat yourself in a thicket and with pursed lips squeak gently but persistently. Soon there will be an answering 'chut,' and with due patience and discretion you may induce this elusive creature to appear.

"I do not recall a more suspicious bird than the chat. Even the crow's innate caution is sometimes forgotten, but a chat is always on guard. While the cowbird frequently deposits her eggs in the chat's nest, they are seldom hatched, but are destroyed by the owner of the nest, which owner is apt to peck a hole in all the eggs and desert the nest. On moonlight nights the chat often sings freely. The voice of the bird is flexible to an almost unlimited degree. It has no note suggesting its place among the warblers. The song is almost impossible to describe. It begins with two slow, deep notes; then follows one high-pitched and interrogative note; then several, rapid and even, and from that point on to the end I have never been able to give any rendering of the clucking and gurgling that completes the long song. His love song is a woodland idyl, and makes up for much of his shortcomings. From some elevated perch, from which he can survey the surrounding waste for a distance, he flings himself into the air; straight up he goes, on flapping wings, legs dangling, head raised, his whole being tense and spasmodic with ecstasy. As he rises he pours forth a volley of musical gurgles and whistles that drop from him in silvery cascades to the ground like fairy chimes."

In addition to the superior size of this warbler it may also be distinguished by its short, stout bill, suggestive of our flycatchers.

The nests are composed of long, light grass and stems, a light but bulky affair, placed in thickets at low elevations. The birds occur quite commonly along the Illinois River. Three or four eggs are laid, usually from the middle of May until the second week in June. The background is whitish and the markings reddish-brown, quite thickly distributed over the entire surface.

HOODED WARBLER

The range of the Hooded Warbler is the eastern United States, breeding as far north as northern Illinois and northern Pennsylvania, and wintering in Central America.

"Take a lump of molten gold fashioned like a bird, impress upon it a hood of steel, oxidized, as black as jet, overlay this in turn with a half-mask of the gold, tool out each shining scale and shaft and filament with exquisite care, and you may have the equal of one of those ten-thousand-dollar vases of encrusted steel and gold which the Spanish are so clever at making—an heirloom to be handed down from father to son. But let Nature breathe on it; let the Author of Life give it motion and song, and you will have a hooded warbler—not less beautiful that you cannot handle it, but infinitely more so in that its beauty takes a thousand forms, a fresh one for every turn of fancy that may stir an avian breast.

"To me the bird first came as a voice, a sweet and pure

HOODED WARBLER.
(Silvani mitrata).
Life-size

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CANADIAN WARBLER.
(Sylvania canadensis).
About Life-size

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but altogether puzzling sound, tossed down from a tree-top on a foggy morning, an hour before dawn.

"The hooded warbler shows a decided preference for damp woods where there is plenty of undergrowth. Beech woods are favorite places if the other conditions are suitable. Here the birds spend their time fly-catching along the middle levels, or descend to search the brush. The tail is sometimes carried half-open, after the redstart's well-known fashion; but otherwise the birds are much less fussy than their salmon-spotted neighbors.

"Like most warblers, the hooded has a chip note of alarm which is distinctive to practiced ears, while the male has a song which is quite marked, "tsu-e, tsu-e, tsu-e, tsu-wee-tsu." The notes are ringing and musical, but the last two contain a sort of vocal somersault, as though the bird were attacked by a sudden inclination to sneeze. These last notes would undoubtedly be mistaken for those of the Acadian flycatcher, if heard alone. This is the common song, but some variant forms occur." (Adapted from Dawson's "Birds of Ohio.")

The nests of bark strips, stems, dead leaves, and grasses are placed at low elevations in saplings or bushes. The four eggs are flesh-colored, daintily speckled with purple and brown.

THE CANADIAN WARBLER*

The attractive Canadian Warbler is not an uncommon migrant, yet because of its natural habits it is not readily observed, and is often considered of rare occurrence. Like many of the warblers, it is somewhat erratic in its migra-

tions, and may be very abundant one season and very rare the next. It frequents the edges of woodlands, and finds the greatest satisfaction in the forests that border streams and other bodies of water. It is quite partial to coniferous forests, and, wherever these are found within its range, it will be found more common in them than in adjacent hardwood thickets. It has an extensive range, which covers eastern North America, westward to the Plains, and from Lake Winnipeg and Newfoundland southward. As winter approaches, it passes through eastern Mexico to Central and South America, where its presence has been noted in Peru. It breeds in the Alleghanies and the more elevated regions of New England and New York, northward to the limits of its range, and westward to Manitoba. Its nests are also occasionally found in the northern portions of the middle United States.

Mr. Ernest E. Thompson describes its song as loud and rasping, and gives it the following syllabic rendering: "Rup-it-che, rup-it-che, rup-it-chitt-it-lit." It sings frequently during the spring, but becomes silent before the close of summer.

The nest of the Canadian warbler is built upon the ground in woods, in shrubby fields, or in shaded swampy places. Audubon alone describes it as being found elsewhere. He writes of finding a nest "in the fork of a small branch of laurel, not above four feet from the ground." The nest is usually placed beside a log or among roots, and is made of quite loosely arranged leaves, dried grasses and weed stalks, roots, and hair; it is lined with hair; contains four white eggs with chestnut spots around the large end.

AMERICAN REDSTART.
Life-size.

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REDSTART

The Redstart ranges from New York, Ohio, Indiana, and Illinois northward. With the yellow warbler, Maryland yellow-throat, yellow-breasted chat, and oven-bird, this handsome species represents the small detachment of warblers that spend the summer around the southern borders of the Great Lakes region, especially west of Ohio. The redstart is partial to damp woodlands and shady roadsides. The males flit hurriedly from branch to branch, alternately spreading their tails and dropping the wings. Each move is the personification of nervous energy.

The males have beautiful patches of salmon-pink in both the tail and wing feathers. The sides of the body are also tinted with this beautiful shade. The style and color effect are suggestive of the markings in our towhee, but the redstart is much smaller. The plumage of the female redstart is much less conspicuous than that of her mate. The beautiful salmon shade seen in the plumage of the male is replaced by light yellow. Her upper parts are pale brown instead of black.

Decidedly a fly-catching warbler, feeding usually at low elevations, capturing insects on the wing, and hunting for their larvæ in the crevices of the bark and under the leaves and stems, mark this beautiful bird as one of our very useful friends.

The song is a hurried little twitter, uttered with a rising inflection of the voice. The nests are placed within ten or twelve feet of the ground, and are composed of Indian

hemp, fine stems, bark fibers, and cobwebs, lined internally with fine round stems. Three or four white eggs, delicately spotted at the larger end with light reddish-brown, are laid from the middle of May to the middle of June. In spite of the small size of the nest, the cowbird frequently deposits one or two eggs in it.

CHAPTER XIX

THRASHERS, WRENS, ETC.

Mocking-birds, Catbirds, and Thrashers are all described under the one sub-family, *Mininæ*. This group is distinctively American, about a dozen species reaching the United States. They are adepts at mimicry and are clever songsters, ranking first in execution. Their food consists of both animal and vegetable life. Thrashers and mocking-birds appear equally fond of grasshoppers and other insects and small fruits. Many birds of this family show a decided preference for the haunts of man, and are familiar in shrubby growths of populated districts. Most are decidedly warm-weather birds.

Wrens, sub-family *Troglodytinæ,* are mostly American, and are most abundant in the tropics. These nervous, active birds inhabit thickets, where they creep into all kinds of nooks and corners for their food, which consists of worms and insects and their larvæ. Most species are highly musical.

DIPPER

Mountainous portions of western North America, from the northern portions of Central America northward to Alaska, are frequented by the Dipper, or Water Ouzel. While these bluish-gray birds are considered to be closely related to the thrushes, they show little family resemblance,

except that they are exceptionally sweet songsters. Aquatic as the mud hen, they run nimbly over the rocks and stones after the manner of our little spotted sandpiper, tilting backward and forward. In some ways their habits are suggestive of our water thrushes, as these nervous birds are constantly on the move. They are never found about stagnant water, but frequent the mountain torrents where the water dashes over the rocks. Here they seek small forms of animal life among the crevices.

One naturalist describes the bird as follows: "They are the embodiment of a mountain torrent — bustling and energetic; and their song is like crystallized spray — sweet, sparkling, and vivacious, taken with its surroundings. I do not know of any other bird's song which surpasses it."

The beautiful nests are placed on a little ledge or shelf, usually close to the water's edge, where they are frequently kept damp by the spray. Sometimes the roots of an upturned tree afford a suitable site. The nest is a beautiful ball of green moss, dome-shaped, with a small entrance at the side. It is strongly arched over with leaves and grasses and supported by twigs, the entire mass being firmly cemented with mud. It is hardly possible to secure one of these nests for museum purposes because of their peculiar composition and the firmness with which they are attached to other articles.

Four or five pure white eggs are laid. The latter half of May and the first two weeks of June are the breeding dates. The eggs bear a general resemblance to those of the purple martin. I have a set of four sent me from the mountains of Colorado.

AMERICAN DIPPER OR WATER OUZEL

MOCKINGBIRD.
(Mimus polyglottos)
¾Life-size.

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MOCKING-BIRD

The Mocking-bird is a member of the thrasher family and, like the cardinal, is gradually pushing his way northward and infringing upon the domains of the brown thrasher, often called our Northern mocking-bird. While the mocking-bird is found chiefly south of the Ohio River, it is also found as far north as Iowa and central Illinois. The Rocky Mountain form is considered a sub-species, called the Western mocking-bird.

Mocking-birds feed chiefly on worms, beetles, small berries, and fruit, so is a useful bird economically. By many sentimental writers rather than genuine naturalists, these birds are considered the finest of American songsters; but, while they have a great range and quality of tone, our foremost authorities have not considered them in the same class with the wood and hermit thrushes, the bobolink, and the cardinal. Some admirers claim it should be made the National Song-bird.

Neltje Blanchan writes: "With all his virtues, it must be added that this charming bird is a sad tease. There is no sound, whether made by bird or beast, about him, that he cannot imitate so cleverly as to deceive every one but himself. Very rarely can you find a mocking-bird without intelligence and mischief enough to appreciate his ventriloquism — slim, neat, graceful, and amusing, with a rich, tender song, and with an instinctive preference for the society of man."

Before the enforcement of the American Song-bird

Law, which prohibits the catching and keeping in confinement any of our native song birds, except by duly authorized parks and museums, this bird was a favorite pet. The young are easily reared by hand, and many people prefer them to the canary. Mocking-birds are most at home near the habitations of man, and are especially fond of perching on chimneys.

The nests are usually placed at low elevations, and are bulky structures of grass, sod, and twigs, lined with dark roots, horse hair, and cotton. Like the catbird and the brown thrasher, they enjoy placing their nests in the most impenetrable thickets. Four or five eggs are laid in May. The background varies in different specimens. Some are greenish-blue and others tan. The markings are in the form of spots, varying in shade from rich chestnut to pale brown.

CATBIRD

The Catbird ranges throughout temperate North America, breeding from the Gulf to New Brunswick and British Columbia, and wintering in Florida and southward.

The catbird ranks high as a housekeeper, taking great pains in protecting her nest from the sun. Her plumage is a uniform slaty-gray or a mouse color, with a few reddish-brown feathers on the under tail coverts; otherwise she possesses no suggestion of brown or rufous, so prominent in the brown thrasher, a near relative.

The catbird shuns exposed situations. Though not a timid bird, often inhabiting the undergrowth in public parks or along pathways, both male and female are cau-

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CATBIRD.
(Galeoscoptes carolinensis Linn.)
⅔ Life-size.

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tious in their movements, seldom exposing themselves except when flying from one cover to another. The brown thrasher gives vent to his feelings by singing from exposed perches; but the catbird, like the chat, talks and sings in hidden places. Their alarm note, like their call note, sounds like the mew of a cat, hence the name "catbird." The song proper is much like that of the brown thrasher. Catbirds feed upon worms and winged insects, which they find in the dense foliage, also upon berries and small fruit. Partial to warm weather, they do not arrive until the foliage in April is sufficiently developed to offer proper concealment.

"Reports from the Mississippi Valley indicate that the catbird is sometimes a serious annoyance to fruit growers. The reason for such reports may possibly be found in the fact that on the prairies fruit-bearing shrubs, which afford so large a part of this bird's food, are absent. With the settlement of this region comes an extensive planting of orchards, vineyards, and small fruit gardens, which furnish shelter and nesting sites for the catbird, as well as for other species. There is, in consequence, a large increase in the numbers of the birds, but no corresponding gain in the supply of native fruits upon which they were accustomed to feed. Under these circumstances, what is more natural than for the birds to turn to cultivated fruits for their food? The remedy is obvious: Cultivated fruits may be protected by planting wild species, which are preferred. Some experiments with catbirds show that the Russian mulberry is preferred to any cultivated fruit. Although the catbird sometimes does considerable harm by destroying small fruit, the bird cannot be considered injurious. On the con-

trary, in most parts of the country it does far more good than harm." (Farmers' Bulletin No. 54.)

The birds are abundant in eastern North America, where they frequently nest in the same shrub with the yellow warbler. The nests are quite bulky, being made of stems, leaves, and hay, lined internally with dark rootlets. The nests may be found in low situations, usually not to exceed seven to eight feet above the ground. The four or five eggs are laid in May, and a second brood hatches in July. The birds call vigorously when their nests are disturbed.

BROWN THRASHER

The Brown Thrasher ranges through eastern North America, breeding from the Gulf to Manitoba and Maine, and wintering from Kentucky southward. This is the only bird bearing the name thrasher which occurs in eastern North America. From western Texas across to the Pacific several other thrashers occur. Arizona is the principal region for thrashers. There, among the cacti and shrubbery, one may find Leconte's, Palmer's, Bendire's, curve-billed, and Cressal's thrashers.

The brown thrasher, commonly called brown thrush, is not a thrush, but belongs to the same family as the mocking-bird and catbird. It is often properly called the Northern mocking-bird and in the South is often known as the sandy mocker. It is a long, slender bird with long tail, short wings, and curved bill. The upper parts are light brown; the throat and breast are thickly spotted and streaked with black. Less timid than the catbird, while he

BROWN THRASHER.
(Harporhynchus rufus.)

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enjoys thickets, he unhesitatingly exposes himself, especially to sing.

"He is a finished musician, and, although his repertoire is limited to one air, he rivals the mocking-bird in the richness of his tones and execution." (Chapman.)

The brown thrashers seem to be increasing in numbers, and take more to the hedges in the fields. Some farmers complain of their crow-like fondness for corn; however, their fare of insects in the main makes them one of the farmer's best friends, though they do take toll of fruit.

Just at sundown I find myself among the hazel brush examining the tracks of some wary woodcock. Suddenly the air is filled with a series of trills, chirps, and warbles; now he whistles, now he sings, and presently he appears greatly agitated. This five-minute vaudeville announces the return of a most welcome resident. The brown thrasher hops about on the ground, taking great care in holding his long tail aloft and looking at all trespassers curiously through his lemon-colored eyes. A week or two later I find myself in the same place, when I see through the brush, among the leaves covering the soft mellow earth, what I first thought to be a setting woodcock. It is none other than Madam Thrasher, who has constructed a nest of stems and grass containing four light blue eggs densely covered with minute specks of brown. The lining of the nest is of rootlets, and so differs from the nest of the woodcock. Some nests are placed in brush piles, others in thorn-apple trees, easily within reach of the ground. The first nest is constructed late in April and the birds rear a second brood in June.

THE CALIFORNIA THRASHER*

One of the finest songsters among birds is the California Thrasher. Though confined to the coast regions of California, it is quite abundant and seems to bear to that locality the same relation that the brown thrush, or thrasher, does to the thickets further east. The song of this western thrasher is exquisitely sweet, and by some it is considered far superior to that of any of the numerous songsters that frequent the woods and brush of the Pacific Coast.

It is in the morning and in the evening that this thrasher pours forth its song from some prominent and exposed perch. Then, as it were, with all care dismissed from its mind, all the energy of its being is thrown into a hymn of nature. By some this song is considered richer than that of the mocking-birds, though the thrasher has but one air.

Because of its short wings, the movements of this thrasher are rather heavy. Its flights are short, and usually from bush to bush, while constantly opening and shutting its tail. Its life is not confined to trees and shrubs, for it moves easily on the ground, hopping rapidly, with accompanying jerks of its tail. It is said that it will scratch in the layer of old leaves under trees like a domestic fowl when hunting for its food. It prefers insect food, and seldom eats fruit of any kind, except when food of its choice is scarce.

Its favorite haunts seem to be the regions of scrubby oak and greasewood brush of the deep mountain gorges. Here it builds its home, which "is a coarse, widely con-

CALIFORNIAN THRASHER.
⅔ Life-size.

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CAROLINA WREN.
(Thryothorus ludovicianus.)
About Life-size.

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structed platform of sticks, coarse grass, and mosses, with but a very slight depression. Occasionally, however, nests of this bird are more carefully and elaborately made. It is always well hid in the low scrub bushes."

Both the sexes assist in the care of the eggs, though the male, as befits the father of a family, usually stands guard over the nest, giving a quiet note of warning on the approach of danger.

CAROLINA WREN

The Carolina Wren is found about the Great Lakes region in limited numbers. Their true summer home is south of the central portions of Illinois and Indiana and south of Iowa to the Gulf and east to the Atlantic. In southern Illinois and Indiana they are abundant. They are resident except in the northern limit of their range. This largest eastern wren nests about dwellings, sheds, brush, fence corners, and fallen logs. They remain paired throughout the year and are endowed with happy dispositions, singing almost constantly from early February until early fall.

They are musical and sing wherever found. Of their several songs, the common call or alarm note may be described thus: "Kurs——t," "Whe-o-wow-whe-o-wow-whe-o-wow," or "Ju-piter, Ju-piter, Ju-piter, Ju-piter," may give some idea of the elements of its best-known song. In tone and quality the notes remind one of the song of the Maryland yellow-throat. His loudest notes suggest the whistling of the cardinal.

The food of this useful bird consists chiefly of insects and spiders. They hop about old logs, stumps, and debris, intent on their pursuit of food. Mr. E. R. Quick, a resident of Indiana, describes a pair of Carolina wrens that frequented his premises a few winters ago and became very tame. In January he was splitting some honey locust logs, and the wrens, which sat within three feet of him, would hop down among the sticks when they were split and pick out the larvæ.

Mr. E. R. Ford, of Chicago, discovered a pair breeding in Cook County, Illinois. The nest was placed in the hollow of a tree, near the ground. The birds usually carry a quantity of grass, straw, moss, and leaves into a cavity, and late in April or during early May four to six white eggs are laid, spotted about the larger end with pale red and brown.

BEWICK'S WREN

This bird is frequently described as the long-tailed house wren. It is slightly smaller than the Carolina wren and larger than our common house wren. There are many subspecies, but the true Bewick's Wren inhabits eastern North America from Texas and Georgia rarely as far north as the Great Lakes region. Along the Atlantic Coast it is of only casual occurrence. It winters in the Gulf States. Like the house wren, it exhibits a preference for populated sections, frequently spending the summer about a large residence, nesting in the vines, wood pile, or places that would appeal to the little house wren. The range is extending farther north.

BEWICK'S WREN.
(Thryothorus bewickii).
Life-size

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HOUSE WREN.
About Life-size.

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Mr. John Wright, of Bartholomew County, Indiana, observed a pair that nested on an old mantel in a deserted house for three consecutive years. The first two years they built in a tin can, but the third year the tin can was missing, so they built right on the mantel. Mr. E. R. Quick, another Indiana observer, records a pair that reared a number of broods in a gourd. Once the same pair of birds, after hatching the first brood, brought forth a second brood from a nest in a ball of twine lying in a binder.

Their song is finer in tone than that of the Carolina wren. The alarm note is a distinct little "plit." Among our finest singers, they possess several songs, loud and penetrating.

The birds are great insect destroyers, and they are doubly beneficial because of the number of young reared in a season. Bewick's wren is on the increase, doubtless because it is able to withstand the saucy English sparrow.

The nests are made of the usual wren material, which is an accumulation of twigs, grass, and feathers. The eggs are white, minutely speckled with brown.

HOUSE WREN

The House Wren ranges throughout eastern North America, breeding to Manitoba and Ontario and wintering in the Gulf States.

This is little "Jenny Wren" whose tail sticks up like a "sore thumb." Some authors have considered western Indiana as the western limits of our common house wren, thereby classifying the species which occurs about Chicago

as the western house wren. From observations which I have made in the Great Lakes region, I am of the opinion that the distinction is not perceptible until we go west of the Mississippi. In the territory between the Mississippi and the Rocky Mountains the birds have a somewhat different song and their plumage is slightly lighter. On the Pacific Coast a still lighter form exists, known as Parkman's wren. The wrens partake of the habits of both the thrashers and creepers. The house wren frequents barns and gardens, and particularly old orchards. The food consists almost exclusively of insects, including grasshoppers, beetles, caterpillars, and bugs. These little birds often select unusual nesting sites, such as an old coat in the barn, brush heaps, tin cans, hitching-posts, abandoned woodpecker excavations, and bird-houses constructed for the purpose. The nests are remarkably large for the size of the bird, and I have never seen one that could be removed intact without disturbing the surroundings. Children should be encouraged to put up nesting boxes for these useful birds. A tin can with a hole too small to accommodate a sparrow, and no stoop in front, is sufficient.

The male sings at half-hour intervals throughout the day, from the time he arrives in the Middle States, late in April, until well along into July. Old stump fences which are used in some farming sections afford inviting breeding sites. Numbers of wrens may be found breeding about fields which are enclosed with this crude sort of fence.

I have seen the little fellows carry twigs eight inches long endwise into holes not exceeding an inch in diameter. One or two nests I have seen closely embedded in a thick

WINTER WREN.
(Troglodytes hiemalis.)
About Life-size.

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cluster of vines. The nests are lined with feathers, hair, and grass. From six to nine eggs are laid and two broods are reared in a season.

WINTER WREN

A trifle smaller than our house wren, the little Winter Wren is found in Illinois, Indiana, and Ohio only during the late spring and early fall. It is not a conspicuous bird while migrating, because it spends all the time about fallen logs, old stumps, and brush piles. It often does not fly until one is almost upon it. The only note as a migrant is a decisive little chatter, but it sings sweetly in its summer home. The winter wren summers from the northern borders of Maine, New Hampshire, Vermont, and possibly Michigan and Wisconsin, northward; it winters from New Jersey and southern Illinois southward.

This wren's song is described as "full of trills, runs, and grace notes, a tinkling, rippling roundelay." It reminds one of the song of the ruby-crowned kinglet.

Like the water thrush and dipper, nothing is more inviting than the roots of an upturned tree. Sometimes the crevices of unoccupied buildings or wood piles are used to shelter the nest, which is composed of small twigs, moss, and leaves, compactly interwoven and warmly lined with the feathers of various wild birds. The birds will desert the nest if it is touched by human hands.

The four to six white eggs, laid during the latter part of May or early June, are minutely and sparsely speckled with purple and lavender, chiefly at the larger end.

SHORT-BILLED MARSH WREN

The Short-billed Marsh Wren ranges throughout eastern North America, breeding from Manitoba to Massachusetts and south and wintering in the Gulf States and Mexico.

In June, when the waters of the marshes and sloughs have evaporated, the grass often becomes four or five feet high where the little "short-billed" forages. In general appearance he reminds us of his neighbor, the long-billed marsh wren, but is darker in plumage and may be identified by his song, which is entirely different, although expressing the genuine wren gurgle. The wrens sing as if they had some liquid in their throats and were attempting to gargle. Rushes and cattails have no particular attraction for the short-billed wren. He may choose a small scrub willow as a suitable place to pour forth his notes to the female, skulking in the grass. Like all other wrens, the short-billed is a useful bird economically because of insects destroyed.

In summer, when mosquitoes are aggravating, the bird-lover does not travel these tangles with the same enthusiasm as in April and June, when the pests are fewer and progress more easy. Still, we long to know more about the home life of the short-billed wren, and the song of the male assures us that we will be rewarded if persistent in our efforts. Perhaps it has not rained for many days and the grass is dusty from pollen and plant down. I drop to my knees and move slowly through the grass, looking carefully in all directions before advancing. Eventually a little bird

SHORT-BILLED MARSH WREN.
Life-size.

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LONG-BILLED MARSH WREN.
Life-size

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flies slowly from the cover ahead and takes refuge behind a little willow. Moving in that direction, I discover a round ball, composed of long grass or hay, neatly woven to the green stems, with a little opening on the side. Carefully inserting my finger, I find the interior incomplete. This nest will remain so. I mark the nest and soon discover another grassy bulb which is uninhabited. There appears to be only one pair of birds in the immediate vicinity, so I have disvovered two sham nests. There are probably one or more additional structures, but only one contains the pure white eggs. I now examine the nest which is externally the least attractive, only to find it warmly lined with cattail down, on which are deposited seven eggs. Crouching low in the grass, I await a visit from the birds, and presently both of them are preoccupied about the vacant nests. What intelligent little fellows they are to seek in this manner to conceal their treasures.

LONG-BILLED MARSH WREN

The Long-billed Marsh Wren ranges throughout eastern North America, breeding from the Gulf to Manitoba and east to Massachusetts and wintering from the Southern States into Mexico.

The long-billed marsh wren has been subdivided, though very little difference exists in their general song and habits. The type inhabiting the central United States and upper Mississippi Valley is called the prairie long-billed marsh wren. East in the United States and Canada is the summer home of the long-billed marsh wren, the true form. Swamps

and sloughs, where cattails and bulrushes grow luxuriantly either in fresh or stagnant water, is an attractive place for these little creepers.

The song is a rather hoarse, rollicking warble, suggestive of one with a chronic case of bronchitis, continued whether the bird is at rest or in the air.

The food is insectivorous, and, therefore, these little birds are of great value to mankind, although they do not haunt the cultivated sections.

From three to seven nests are built, only one of which is entirely completed and used. From external appearances one might expect all of them to be occupied. Whether these extra nests are built merely for recreation, or for the intention of deceiving their enemies, is a question open for debate.

The nests are globular, with an entrance at the side. Externally they are composed of dead rushes, grass, moss, and a liberal amount of cattail down used as a lining. From four to eight chocolate brown eggs are laid and the young hatch in about ten days.